

WHAT IS CLAIMED IS:

1. A data management system comprising:

a storage medium for storing contents;

application executing means for activating an application so that the application accesses the contents stored in the storage medium and effects a processing on the contents;

access monitoring means for monitoring the status of access of the application to the contents by associating inherent information for the application brought into an activated status by the application executing means, with inherent information for the contents accessed by the application; and

filtering means for enciphering the contents with using the inherent information for the application when the application under the activated status writes the contents into the storage medium while deciphering the contents with the inherent information for the application when the application under the activated status reads out the contents in the storage medium.

2. A data management system according to Claim 1, further comprising:

an operating system as a software for controlling the execution of the application, wherein

the operating system assigns identification information to each process upon executing the application by the application executing means, and the access monitoring means utilizes the identification information as the inherent information for the application.

1 3. A data management system according to Claim 2, wherein  
2 the access monitoring means registers the inherent  
3 information for the application and the inherent information  
4 for the contents in a management table so that the inherent  
5 information for the application and the inherent information  
6 for the contents are associated with each other, and the access  
7 monitoring means monitors the status of access with the  
8 assistance of the management table.

1 4. A data management system according to Claim 3, wherein  
2 when the application executing means completes the  
3 execution of the application, the access monitoring means deletes  
4 the inherent information for the application and the inherent  
5 information for the contents corresponding to the application  
6 from the management table.

1 5. A data management system according to Claim 3, wherein  
2 at least one piece of logical drive is built in the storage  
3 medium and the contents is reserved in the logical drive,  
4 a file system for managing the logical drive is built in  
5 each of the logical drive, and  
6 at least one file system is arranged to serve as an  
7 encryption file system which has a cryptographic attribute  
8 determined for each file or folder containing the contents,  
9 enciphers the contents at each file or folder upon storing the  
10 contents in the storage medium.

1 6. A data management system according to Claim 3, wherein

2 at least one piece of logical drive is built in the storage  
3 medium and the contents is reserved in the logical drive,  
4 a file system for managing the logical drive is built in  
5 each of the logical drive, and  
6 at least one file system is arranged to serve as an  
7 encryption file system which enciphers the file system as a whole  
8 upon storing the contents in the storage medium.

1 7. A data management system according to Claim 5, wherein  
2 when the application reads out the contents stored in the  
3 logical drive managed by the encryption file system, the access  
4 monitoring means registers a file name of the file containing  
5 the contents read out by the application in the management table  
6 as the inherent information for the contents.

1 8. A data management system according to Claim 6, wherein  
2 when the application reads out the contents stored in the  
3 logical drive managed by the encryption file system, the access  
4 monitoring means registers a file name of the file containing  
5 the contents read out by the application in the management table  
6 as the inherent information for the contents.

1 9. A data management system according to Claim 5, wherein  
2 when the application reads the contents stored in the  
3 logical drive managed by the encryption file system, the access  
4 monitoring means registers a drive name of the logical drive  
5 containing the contents read out by the application in the  
6 management table as the inherent information for the contents.

1 10. A data management system according to Claim 6, wherein  
2 when the application reads the contents stored in the  
3 logical drive managed by the encryption file system, the access  
4 monitoring means registers a drive name of the logical drive  
5 containing the contents read out by the application in the  
6 management table as the inherent information for the contents.

1 11. A data management system according to Claim 5, wherein  
2 when the application effects a processing on the contents  
3 to create a new file, the access monitoring means registers a  
4 file name generated for the new file in the management table  
5 so that the file name and the inherent information for the  
6 application are associated with each other.

1 12. A data management system according to Claim 6, wherein  
2 when the application effects a processing on the contents  
3 to create a new file, the access monitoring means registers a  
4 file name generated for the new file in the management table  
5 so that the file name and the inherent information for the  
6 application are associated with each other.

1 13. A data management system according to Claim 11, wherein  
2 the access monitoring means changes the file name of the  
3 new file partly or wholly, and registers the changed name in  
4 the management table.

1 14. A data management system according to Claim 12, wherein  
2 the access monitoring means changes the file name of the

3 new file partly or wholly, and registers the changed name in  
4 the management table.

1 15. A data management system according to Claim 9, wherein  
2 the access monitoring means compares a drive name of the  
3 logical drive as a destination for storing a file, which is newly  
4 created when the application effects a processing on the contents,  
5 with a drive name of the logical drive registered in the management  
6 table, and if it is determined that both of the drive names disagree  
7 with each other as the result of comparison, the access monitoring  
8 means changes a file name of the newly created file so that the  
9 newly created file is stored in the logical drive of the drive  
10 name registered in the management table and registers the changed  
11 file name in the management table.

1 16. A data management system according to Claim 10, wherein  
2 the access monitoring means compares a drive name of the  
3 logical drive as a destination for storing a file, which is newly  
4 created when the application effects a processing on the contents,  
5 with a drive name of the logical drive registered in the management  
6 table, and if it is determined that both of the drive names disagree  
7 with each other as the result of comparison, the access monitoring  
8 means changes a file name of the newly created file so that the  
9 newly created file is stored in the logical drive of the drive  
10 name registered in the management table and registers the changed  
11 file name in the management table.

1 17. A data management system according to Claim 9, wherein

2 the access monitoring means compares a drive name of the  
3 logical drive as a destination for storing a file, which is newly  
4 created when the application effects a processing on the contents,  
5 with a drive name of the logical drive registered in the management  
6 table, and if it is determined that both of the drive names are  
7 coincident with each other as the result of comparison, then  
8 the access monitoring means prohibits a file name of the newly  
9 created file from being registered in the management table.

1 18. A data management system according to Claim 10, wherein

2 the access monitoring means compares a drive name of the  
3 logical drive as a destination for storing a file, which is newly  
4 created when the application effects a processing on the contents  
5 with a drive name of the logical drive registered in the management  
6 table, and if it is determined that both of the drive names are  
7 coincident with each other as the result of comparison, then  
8 the access monitoring means prohibits a file name of the newly  
9 created file from being registered in the management table.

1 19. A data management system according to Claim 9, wherein

2 the access monitoring means compares a drive name of the  
3 logical drive as a destination for storing a file, which is newly  
4 created when the application effects a processing on the contents  
5 with a drive name of the logical drive registered in the management  
6 table, and if it is determined that both of the drive names  
7 disagree with each other as the result of comparison, then the  
8 operation of the filtering means is validated.

20250406 16:25:00

1 20. A data management system according to Claim 10, wherein  
2 the access monitoring means compares a drive name of the  
3 logical drive as a destination for storing a file, which is newly  
4 created when the application effects a processing on the contents,  
5 with a drive name of the logical drive registered in the management  
6 table, and if it is determined that both of the drive names  
7 disagree with each other as the result of comparison, then the  
8 operation of the filtering means is validated.

1 21. A data management system according to Claim 19, wherein  
2 the storage medium comprises a primary storage means which  
3 erases data stored therein upon power supply cut, and  
4 the filtering means stores an enciphered version of the  
5 newly created file in the primary storage means instead of the  
6 logical drive as the storage destination.

1 22. A data management system according to Claim 20, wherein  
2 the storage medium comprises a primary storage means which  
3 erases data stored therein upon power supply cut, and  
4 the filtering means stores an enciphered version of the  
5 newly created file in the primary storage means instead of the  
6 logical drive as the storage destination.

1 23. A data management system according to Claim 5, wherein  
2 the storage medium comprises a first storage unit including  
3 the logical drive managed by the encryption file system and a  
4 second storage unit for storing therein the contents enciphered  
5 by the filtering means.

200004052000

1 24. A data management system according to Claim 6, wherein  
2 the storage medium comprises a first storage unit including  
3 the logical drive managed by the encryption file system and a  
4 second storage unit for storing therein the contents enciphered  
5 by the filtering means.

1 25. A data management system according to Claim 23, wherein  
2 the application executing means, the access monitoring  
3 means, the filtering means and the first storage means are  
4 provided within a single unit of data processing apparatus, and  
5 the second storage unit is connected to the data processing  
6 apparatus by way of a network.

1 26. A data management system according to Claim 24, wherein  
2 the application executing means, the access monitoring  
3 means, the filtering means and the first storage means are  
4 provided within a single unit of data processing apparatus, and  
5 the second storage unit is connected to the data processing  
6 apparatus by way of a network.

1 27. A data management system according to Claim 1, further  
2 comprising:  
3 authenticating means for carrying out authentication on  
4 a user; and  
5 switching means for switching the mode of operation of  
6 the filtering means between a valid mode and an invalid mode  
7 only when the authenticating means successfully carries out the  
8 authentication on the user.



1 28. A data management system according to Claim 23, wherein  
2 the application executing means, the access monitoring  
3 means, the filtering means and the second storage means are  
4 provided within a single unit of data processing apparatus, and  
5 the first storage means is involved in a data recording  
6 reproducing apparatus attached outside the data processing  
7 apparatus.

1 29. A data management system according to Claim 24, wherein  
2 the application executing means, the access monitoring  
3 means, the filtering means and the second storage means are  
4 provided within a single unit of data processing apparatus, and  
5 the first storage means is involved in a data recording  
6 reproducing apparatus attached outside the data processing  
7 apparatus.

1 30. A data processing system comprising:  
2 application executing means for activating an application  
3 so that the application accesses the contents stored in a storage  
4 medium and effects a processing on the contents;  
5 access monitoring means for monitoring the status of access  
6 of the application to the contents by associating inherent  
7 information for the application brought into an activated status  
8 by the application executing means with inherent information  
9 for the contents accessed by the application; and  
10 filtering means for enciphering the contents with the  
11 inherent information for the application when the application  
12 under the activated status writes the contents into the storage

13 medium while deciphering the contents with the inherent  
14 information for the application when the application under the  
15 activated status reads out the contents from the storage medium.

1 31. A recording medium capable of being read by a computer having  
2 recorded thereon a data management program which forces the  
3 computer to realize a function for protecting a copyright of  
4 contents stored in a storage medium when an application accesses  
5 the contents to effect a processing on the contents, wherein  
6 the data management program forces the computer to function  
7 as access monitoring means and filtering means, the access  
8 monitoring means monitoring the status of access of the  
9 application to the contents by associating inherent information  
10 for the application brought into an activated status with  
11 inherent information for the contents accessed by the application  
12 and, the filtering means enciphering the contents with the  
13 inherent information for the application when the application  
14 under the activated status writes the contents into the storage  
15 medium while deciphering the contents with the inherent  
16 information for the application when the application under the  
17 activated status reads out the contents from the storage medium.